position of the metal would be (having regard to the additions of ferro-manganese and spiegel) as under :—
4-21 per cent. G xl'33=5'600 per cent. O 1-03 „ Si xl'14=l-l7 „ O 0-14 „ P x 1-29=0-18 „ 0 1-82 „ MnxO-29=0'53 „ 0 Total . . 7'48 per__cent.O
The total oxygen consumption therefore is 7'48-f 0'53 = 8'01 per cent.
All the amounts of oxygen just now found out are set out on the line k.f. of the second diagram, Fig. 22, and in similar manner the quantities of oxygen have been ascertained for the intermediate periods.
In order^, to establish the oxidising action of the furnace gases, there is to be deducted from the total oxygen utilised of 8*01 per cent, the oxygen content of the ore, i.e. 7'06 per cent. Thus the furnace action supplied 0*95 per cent 0.
This amount is set out in the portion k.h. on the ordinate
(k.f.) whereof the point (ft) is connected in a straight line with
(a). On the assumption that the oxidising action of the furnace during the entire course of the " heat" is constant, the height of the points of intersection of the line (o.ft.) with the various ordinates, from the abscissae represents the furnace action.
Further, the amounts of oxygen charged into the furnace in the form of ore are set out upon the ordinates, which correspond to the times the additions were made, and that of the intersection points of these ordinates with the line (o.h.) of the furnace action, and from the thus obtained points, a, c and e are set out parallel to the line of the furnace action. In this way, the lines ab, cd, ef, show how much total oxygen has been at disposal of the bath at each moment, and from the individual ordinates how much was utilised and for what purpose it was consumed.
The surface bounded by the line o, b,f.g.o., which for its identification is simply hatched, limits the portions of ordinates, which furnish the amounts of oxygen contained in the slag in the form of iron protoxide. Since, however, this oxygen becomes inactive as soon as the iron content of the